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AN ACCOUNT

OF THE

NEW ENGLAND KITCHEN

AND

RUMFORD FOOD LABORATORY,

142 PLEASANT STREET - - - - BOSTON, MASS.

Prepared for the meeting of the Massachusetts Medical Society
in Boston June 7 and 8, 1892.

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B. H.

Jan. 31, 1893.

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The primary object in the establishment of the New England Kitchen was certain scientific studies on human food and its preparation; and it seemed fitting that this kitchen "experiment station" should be named after the man who made the most careful scientific study of food for men. It was thought, however, that many people would be puzzled or repelled by the name of "The Rumford Food Laboratory," and therefore "The New England Kitchen" was put over the door.

The scientific side of the work has, however, gone on, hand in hand with the practical, and promises soon to reach such proportions as to require a separate housing; in fact, a beginning has already been made in this direction.

For many years, the fullest information which science could give about food for animals has been at the service of the farmer and the veterinarian through the Agricultural Experiment Stations of this country and Europe. The best form of provender and the right quantity of nutriment have been carefully determined for horses, cows, and pigs. Whatever we know about food for human animals is, in large part, derived by analogy from a study of these results.

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Heretofore, civilized man has claimed, as his god-like privilege, and as a proof of his superiority to animals, the right to eat what he liked, whether it was suitable or not, and, as a result, he has been compelled to employ a band of skilled magicians to exorcise the devils which he has invited to enter. But man is now generally considered as only an upright animal amenable to the same laws of growth and decay as other animals.

The science of human nutrition is, in the immediate future, to play a larger part in therapeutics than heretofore, and it will be of great advantage to the physician to be able to prescribe certain food preparations with as much confidence as he now prescribes medicines. At present, he has less confidence in the cook than in the druggist, and hence the latter has often to make good the deficiencies of the former. The various "extracts" and "prepared foods" have come into use because of this need, but they are too often made with little regard for truth or for science. A few trustworthy food preparations, freshly made, it is the aim of the New England Kitchen to supply. The suggestion of such standards, controlled by analysis, was originally made by a distinguished chemist with a physician's training.

The scientific experiments necessary for the first preparation, namely, Beef Broth, were made by means of a grant from the Elizabeth Thompson Science Fund, and the full accomplishment of the desired results became possible only by means of the Aladdin Oven, the sole accurate instrument known to cookery.

This broth was put upon the market in March, 1890, and has been steadily gaining in popularity ever since. It is made from the most nutritious parts of the animal, the neck and shin. The best quality of these portions is carefully cleaned and skinned, the meat cut into thin slices, and the bones broken. Twenty pounds of meat and twenty pounds of bone are packed

into the cooker, fifteen quarts of cold water added, and the whole placed in an Aladdin Oven at night. Three pints of oil are burned in the lamp, which goes out when empty. In the morning the contents of the cooker, still hot, are poured through a colander, the meat and bone rinsed with boiled and still hot water to obtain any adhering flakes of albumen. The whole should measure twenty-five quarts. Six ounces of salt was the quantity originally added to this measure, but as some physicians objected to this degree of saltiness, it has been somewhat lessened. The broth is cooled as quickly as possible and sold for invalids, only on the day it is prepared, the remainder being used as the basis for the various soups. When properly cooled and kept cold, it will not change under a week.

By the kindness of several physicians of repute, practical trials have been made of this broth, and after two years' experience, we can unhesitatingly recommend this method of preparation to hospitals and institutions as yielding the cheapest and most palatable and nutritious preparation known.

It was made of this dilution in order to secure the greatest digestibility, the nitrogenous value of it being about that of milk. It is a food, and not a stimulant, as its use has proved.

The average of twenty-six analyses, made during the first six months of experiment was, total solids 4.33 per cent, including salt .8 per cent and phosphates .2 per cent, leaving nitrogenous matter 3.33 per cent.

During the week, May 16 to 21, 1892, there were analyzed, 12 samples from the three kitchens, average being 4.40 per cent.

6	"	"	142 Pleasant Street, Boston,	4.36	"	"
4	"	"	173 Salem Street, Boston,	4.38	"	"
2	"	"	341 Hudson Street, New York,	4.49	"	"

This beef broth, as has been said, is equal in nitrogenous value to milk; it is intended to replace the variable and generally valueless beef tea; it does not, however, take the place of the costly and more concentrated "beef juice." The latter is

made by slightly broiling meat, in order to hydrate the gelatinous tissues, and then extracting the dissolved matters by a screw press. It should contain 10 per cent of total solids, of which 6 per cent should be coagulable albumen. A pound of meat, treated in this way, should yield four ounces of juice. It is best made on the spot as wanted.

In the same category as the beef broth, that is to say, a cheap, acceptable, and standard food, is "Evaporated Milk," which is offered as a solution of the problem of supplying a safe milk for children and invalids during the summer months. We consider it the best milk attainable at the cost of ordinary milk.

It is pure milk evaporated, without the addition of sugar, in a vacuum pan at a temperature of about 130° F. or below 150° F., which is much lower than that at which condensed milk is usually prepared. There is an important distinction here; at this low temperature the milk is far less changed from its normal condition, and is more digestible than is the case when it is heated to boiling.

We think it much better to offer this regular and uniform product, prepared in Orange and Montgomery Counties, New York, than to attempt to sterilize the so-called fresh milk after it reaches Boston, often twenty-four hours old, and not infrequently in an advanced stage of decomposition.

Directions for keeping and using this milk will be supplied on application to the kitchen.

We have yet to learn of a single case in which it failed to be perfectly assimilated. Through the kindness of Dr. Geo. H. M. Rowe, the milk was tested for two months in a ward of the Boston City Hospital for typhoid fever patients, with excellent results.

The importance of *good bread* to good health need not be insisted upon. To provide the best bread that can be made, we have given much thought and experience.

The ideal bread for daily use should fulfil certain dietetic conditions: —

1. It should retain as much as possible of the nutritious principles of the grain from which it is made.
2. It should be prepared in such a manner as to secure the complete assimilation of these nutritious principles.
3. It should be light and porous, so as to allow the digestive juices to penetrate it quickly and thoroughly.
4. It should be especially palatable, so that one may be induced to eat enough for nourishment.
5. It should be nearly or quite free from coarse bran.

Ordinary graham bread, brown bread, and black bread fulfil conditions 1 and 4, but fail in the other three. Baker's bread of fine white flour fulfils 2, 3, and 5, but fails in the other two. Home-made bread often fulfils conditions 4 and 5, but often fails in the other three.

"Health Bread" is an attempt to more nearly fulfil all five of the conditions than does any bread now on the market. It is made from spring wheat, from which only the outer husk of indigestible cellulose has been removed, with the addition of a little oatmeal which increases both flavor and nutritious qualities. Analysis shows that it retains a larger proportion of mineral salts and of fats than does white bread.

White bread is also made from the best flour to fulfil, as far as can be, the above dietetic conditions.

In addition to the beef broth, the evaporated milk, and the health bread, the New England Kitchen prepares daily, by standard methods, a certain number of the following foods of uniform composition: —

Beef Stew,
Vegetable Soup,
Tomato Soup,
Pea Soup,

Boiled White Hominy,
" Yellow "
Creamed Codfish,
Aladdin Hash,

Potato Soup,
 Fish Chowder,
 Clam "
 Corn "
 Pressed Beef,
 Spiced Meat,
 Beef Roll,
 Cracked Wheat,
 Corn Mush,

Vegetable Hash,
 Fish Hash,
 Rice Pudding,
 Indian "
 Macaroni with Cheese,
 Apple Tapioca Pudding,
 White Bread,
 Baked Beans,
 Brown Bread.

In response to many requests for instruction in the methods of cooking which are in use in the New England Kitchen, and for an opportunity to study the application of the Aladdin Oven to family cooking, lessons in sanitary and economic cooking have been planned, so as to give people who are interested in the subject as much information as possible in a short time. A short course of cooking for the very sick has been also outlined. It is hoped that the broad treatment of the subject will be found useful by many who have not had time to follow out the latest studies in the Chemistry of Nutrition.





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